

#5

TITLE: VIRUSES COMPRISING MUTANT ION CHANNEL PROTEIN
INVENTORS NAME: Yoshihiro Kawaoka
SERIAL NO.: 09/834,095

1/13

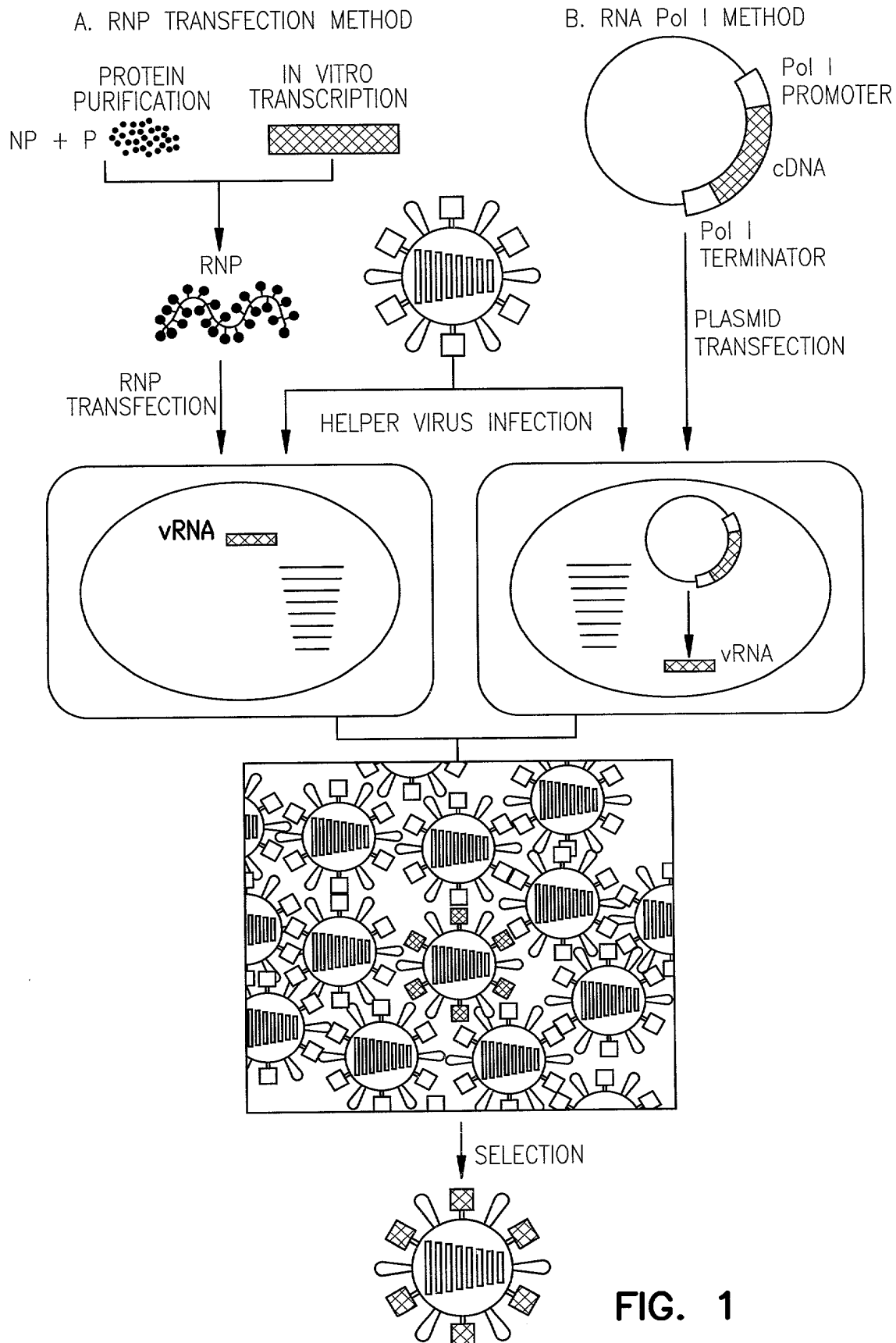


FIG. 1

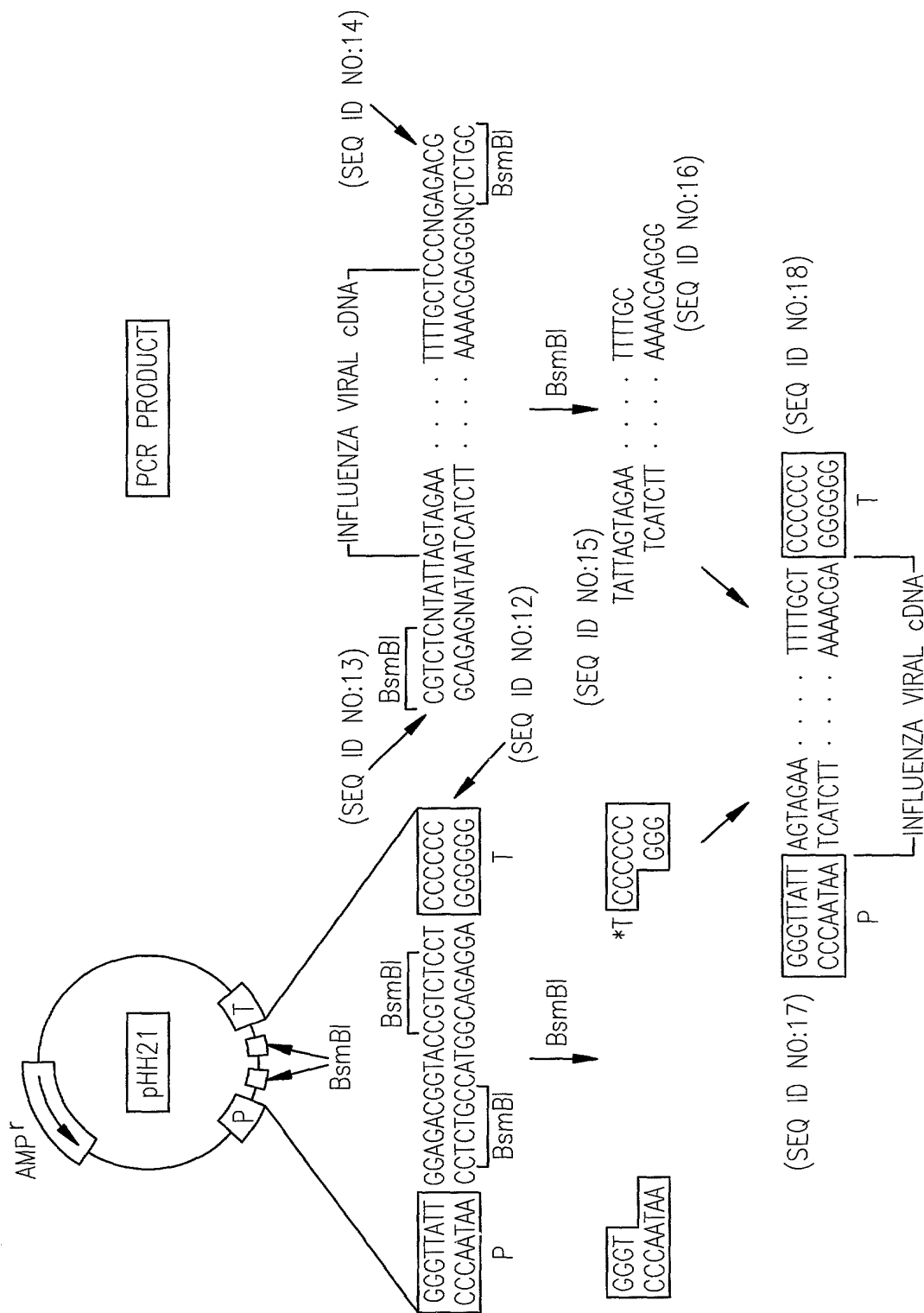
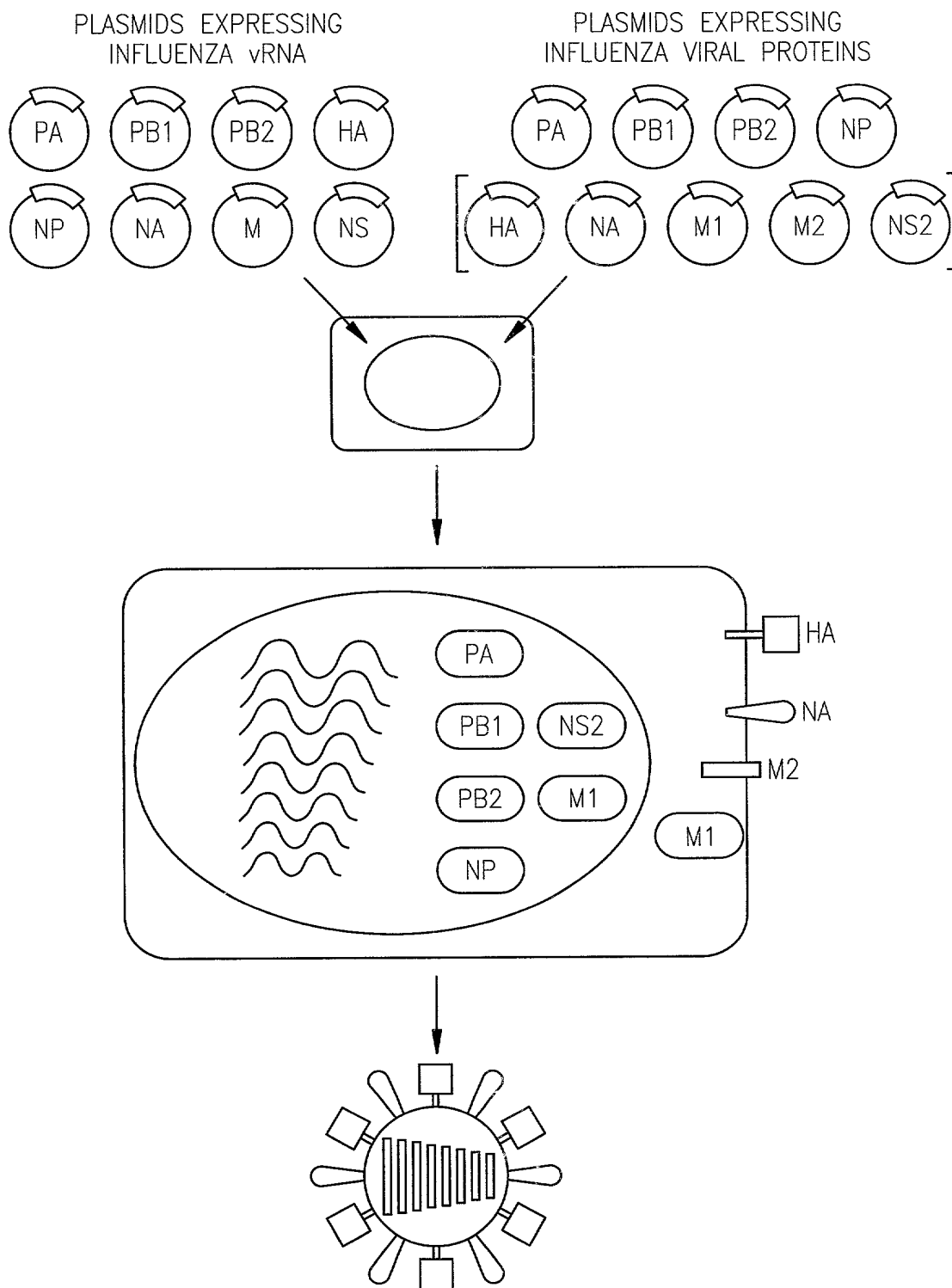


FIG. 2



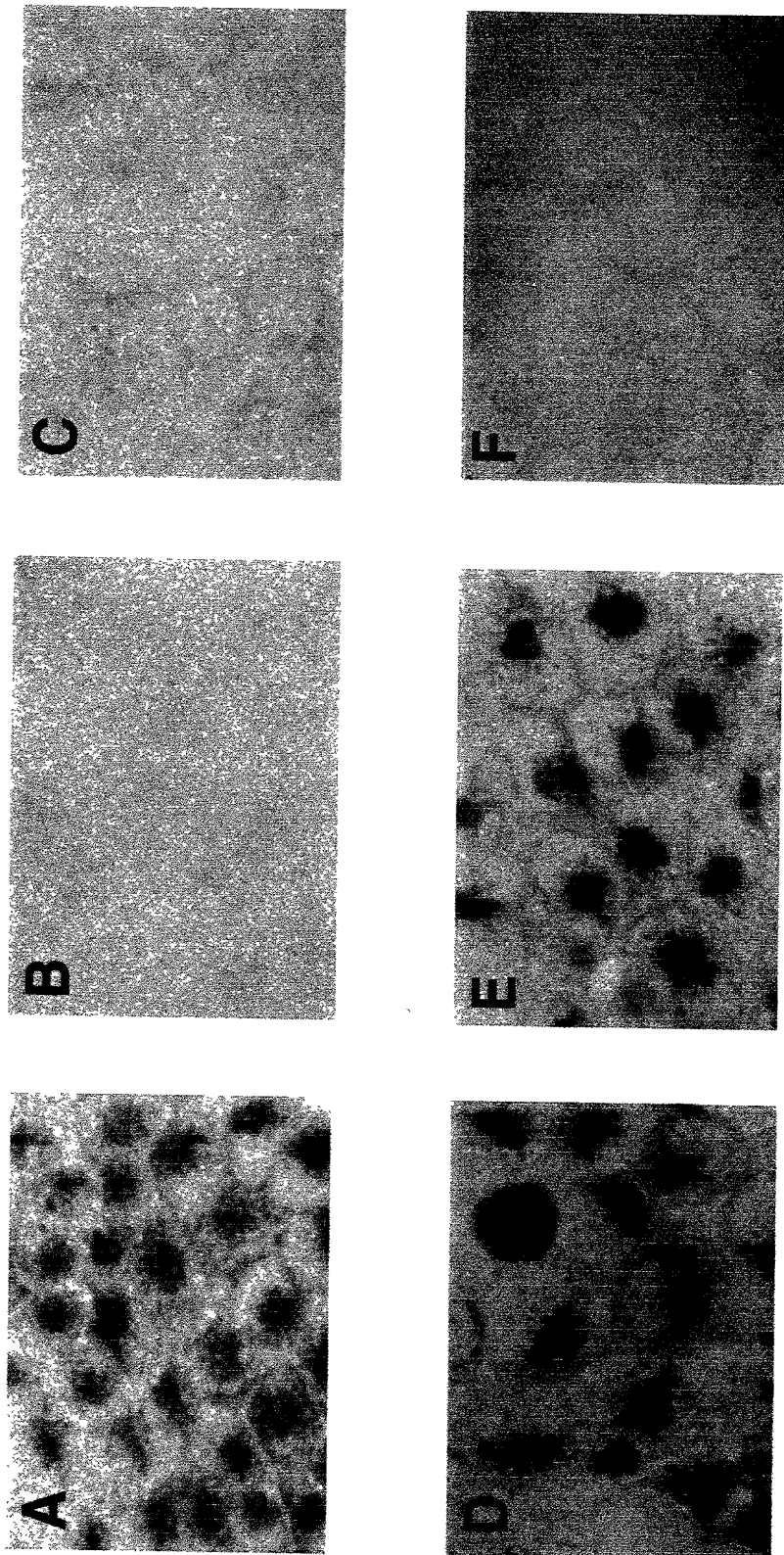


FIG. 4

TITLE: VIRUSES COMPRISING MUTANT ION CHANNEL PROTEIN
INVENTORS NAME: Yoshihiro Kawaoka
SERIAL NO.: 09/834,095

5/13

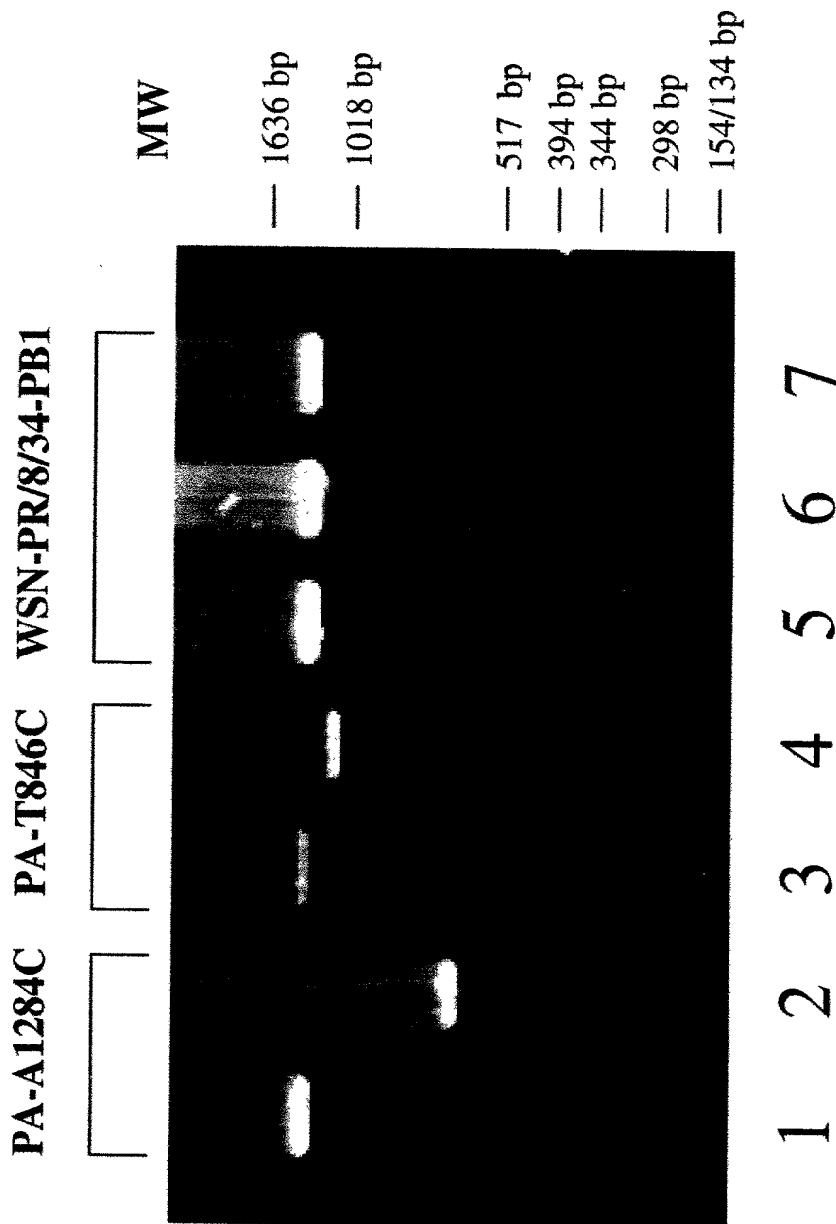


FIG. 5

6/13

PolI-5'WPB2 (SEQ ID NO:19)

CAC ACA CGT CTC GTA TTA GTA GAA ACA AGG TCG TTT TTA AAC TAT TCG
ACA CTA ATT GAT GGC CAT CCG AAT TCT TTT GG

Length: 80 nt Overlap: 26 nt

PolI-3'WPB2 (SEQ ID NO:20)

CAC ACA CGT CTC CGG GAG CGA AAG CAG GTC AAT TAT ATT CAA TAT GGA
AAG AAT AAA AGA ACT AAG G

Length: 67 nt Overlap: 24 nt

PolI-5'WPB1 (SEQ ID NO:21)

CAC ACA CGT CTC GTA TTA GTA GAA ACA AGG CAT TTT TTC ATG AAG GAC
AAG CTA AAT TCA CTA TTT TTG CCG TCT GAG CTC TTC AAT GG

Length: 89 Overlap: 26 nt

PolI-3'WPB1 (SEQ ID NO:22)

CAC ACA CGT CTC CGG GAG CGA AAG CAG GCA AAC CAT TTG AAT GGA TGT
CAA TCC GAC TTT ACT TTT C

Length: 67 nt Overlap: 27 nt

PolI-5'WPA (SEQ ID NO:23)

CCA ACC CGT CTC CTA TTA GTA GAA ACA AGG TAC TTT TTT GGA CAG TAT
GGA TAG CAA ATA GTA GCA TTG CCA CAA CTA TCT CAA TGC ATG TGT GAG
GAA GGA G

Length: 103 Overlap: 25 nt

PolI-3'WPA (SEQ ID NO:24)

CCA ACC CGT CTC CGG GAG CGA AAG CAG GTA CTG ATT CAA AAT GGA AGA
TTT TGT GCG ACA ATG CTT C

Length: 67 nt Overlap: 27 nt

PolI-5'WHA (SEQ ID NO:25)

CAC ACA CGT CTC CTA TTA GTA GAA ACA AGG GTG TTT TTC C

Length: 40 nt Overlap: 22 nt

PolI-3'WHA (SEQ ID NO:26)

CAC ACA CGT CTC CGG GAG CAA AAG CAG GGG AAA AT AAA AAC AAC C

Length: 46 nt Overlap: 29 nt

FIG. 6A

7/13

PolI-5'WNP (SEQ ID NO:27)

CAC ACA *CGT CTC* CTA TTA GTA GAA ACA AGG GTA TTT TTC TTT AAT TG
Length: 47 nt Overlap: 30 nt

PolI-3'WNP (SEQ ID NO:28)

CAC ACA *CGT CTC* CGG GAG CAA AAG CAG GGT AGA TAA TCA CTC
Length: 42 nt Overlap: 26 nt

PolI-5'WNA (SEQ ID NO:29)

CAC ACA *CGT CTC* CTA TTA GTA GAA ACA AGG AGT TTT TTG AAC AAA C
Length: 46 nt Overlap: 29 nt

PolI-3'WNA (SEQ ID NO:30)

CAC ACA *CGT CTC* CGG GAG CGA AAG CAG GAG TTT AAA TGA ATC CAA ACC
Length: 48 nt Overlap: 32 nt

PolI-5'WM (SEQ ID NO:31)

CAC ACA *CGT CTC* CTA TTA GTA GAA ACA AGG TAG TTT TTT ACT CCA GC
Length: 47 nt Overlap: 30 nt

PolI-3'WM (SEQ ID NO:32)

CAC ACA *CGT CTC* CGG GAG CAA AAG CAG GTA GAT ATT GAA AG
Length: 41 nt Overlap: 26 nt

PolI-5'WNS (SEQ ID NO:33)

CAC ACA *CGT CTC* CTA TTA GTA GAA ACA AGG GTG TTT TTT ATT ATT AAA
TAA GC
Length: 53 nt Overlap: 36 nt

PolI-3'WNS (SEQ ID NO:34)

CAC ACA *CGT CTC* CGG GAG CAA AAG CAG GGT GAC AAA GAC ATA ATG G
Length: 46 nt Overlap: 30 nt

Italics: BsmBI recognition sequence

Underlined: Influenza virus sequence

Underlined + Bold: Influenza virus coding region

FIG. 6B

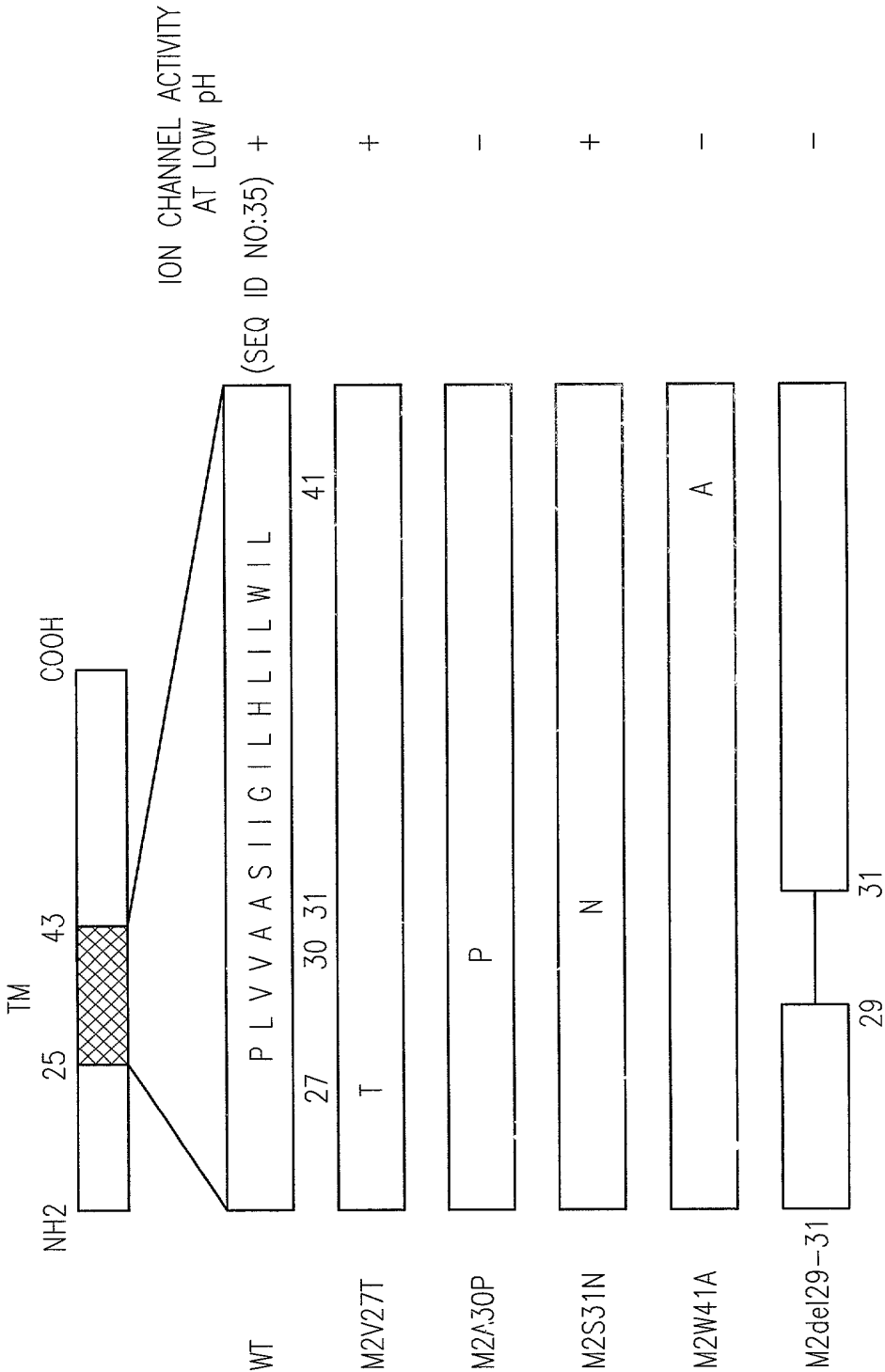


FIG. 7

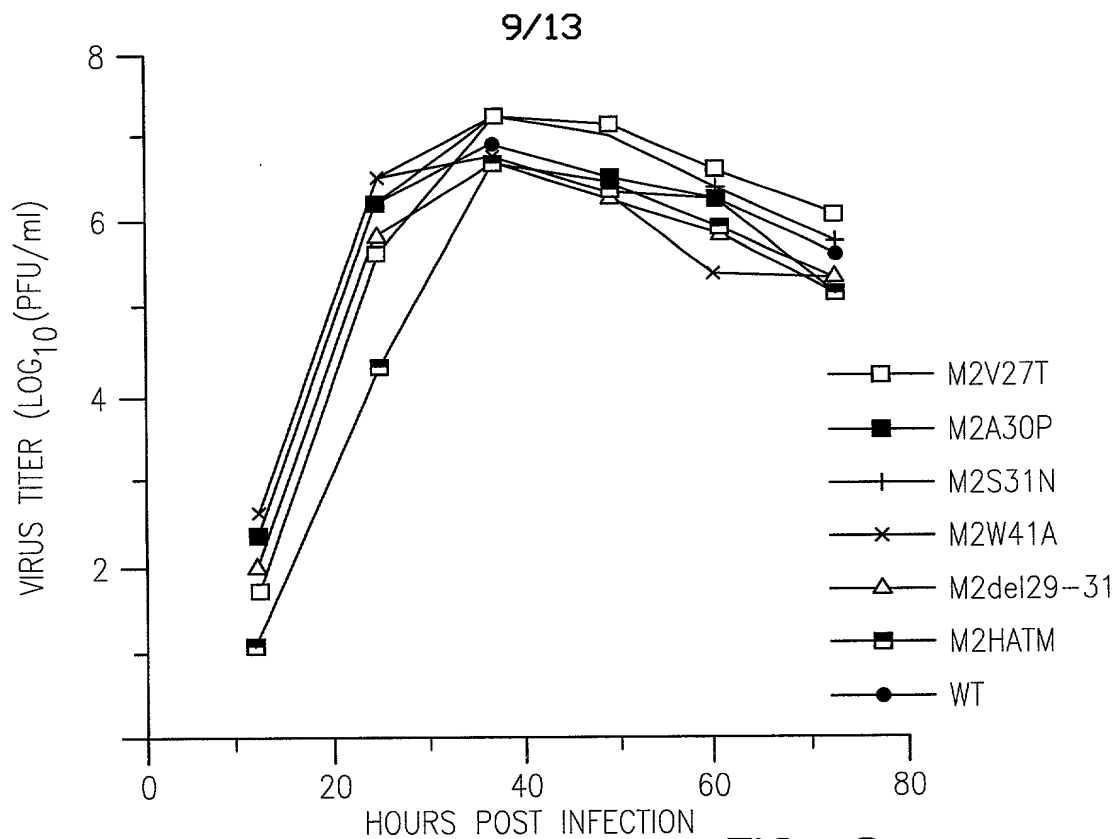


FIG. 8

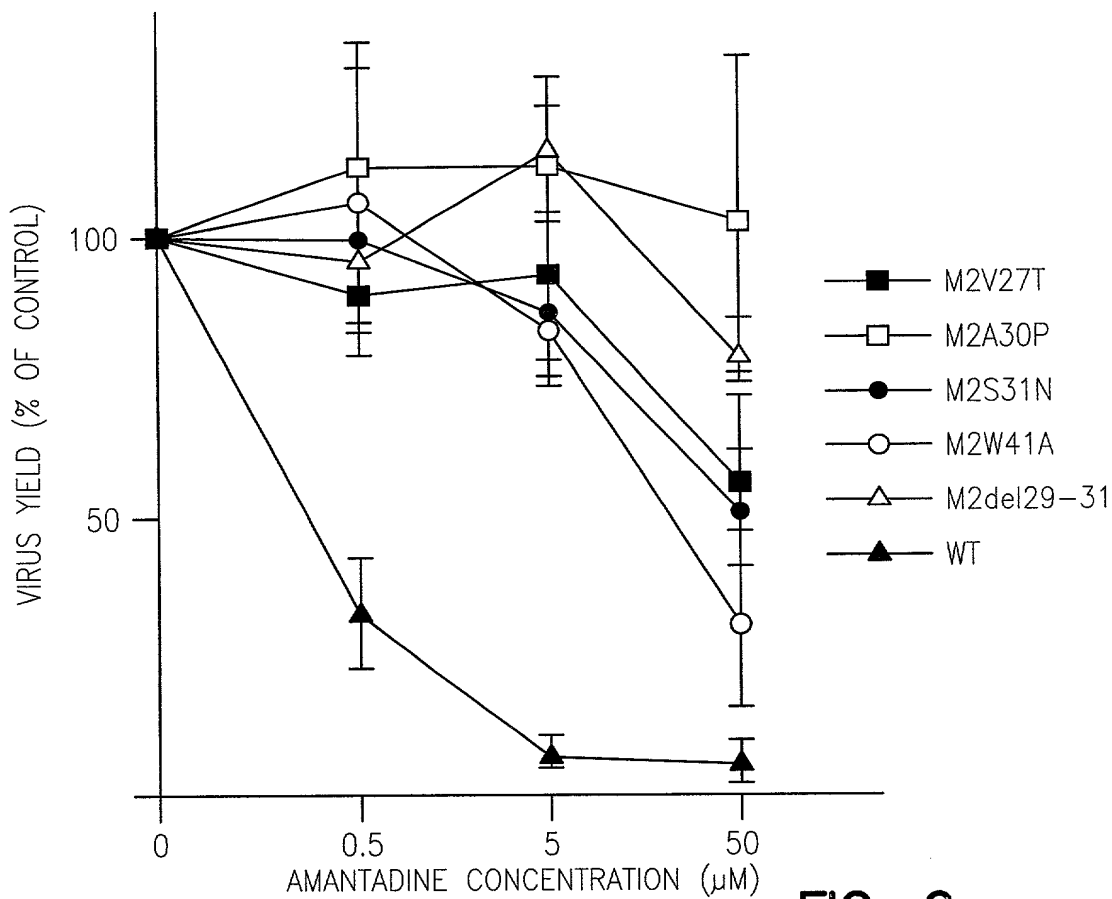


FIG. 9

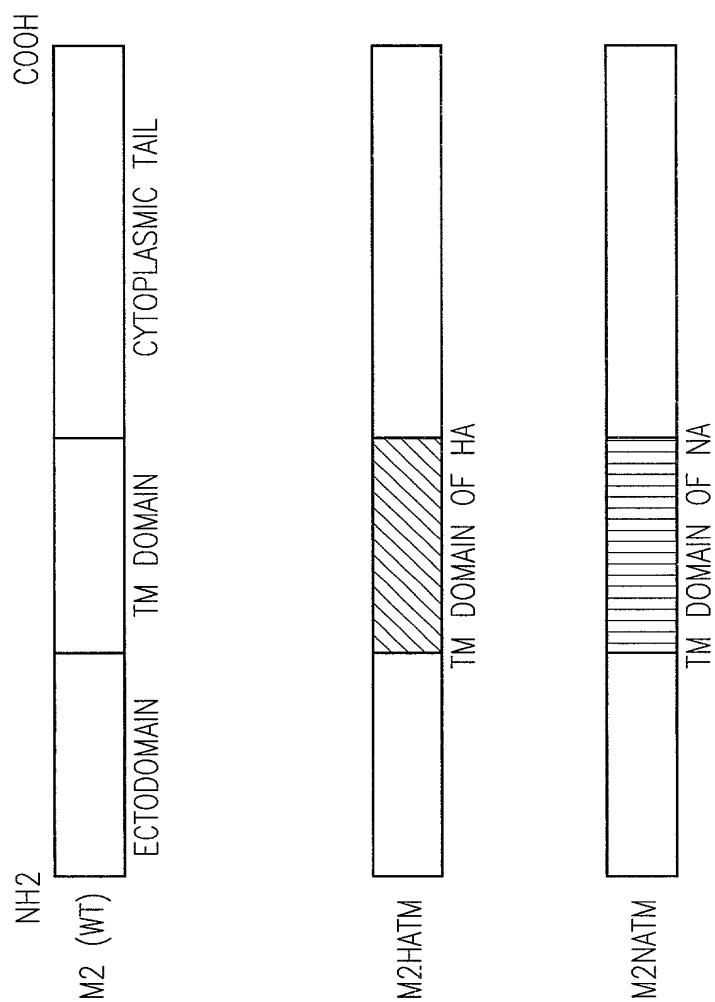


FIG. 10

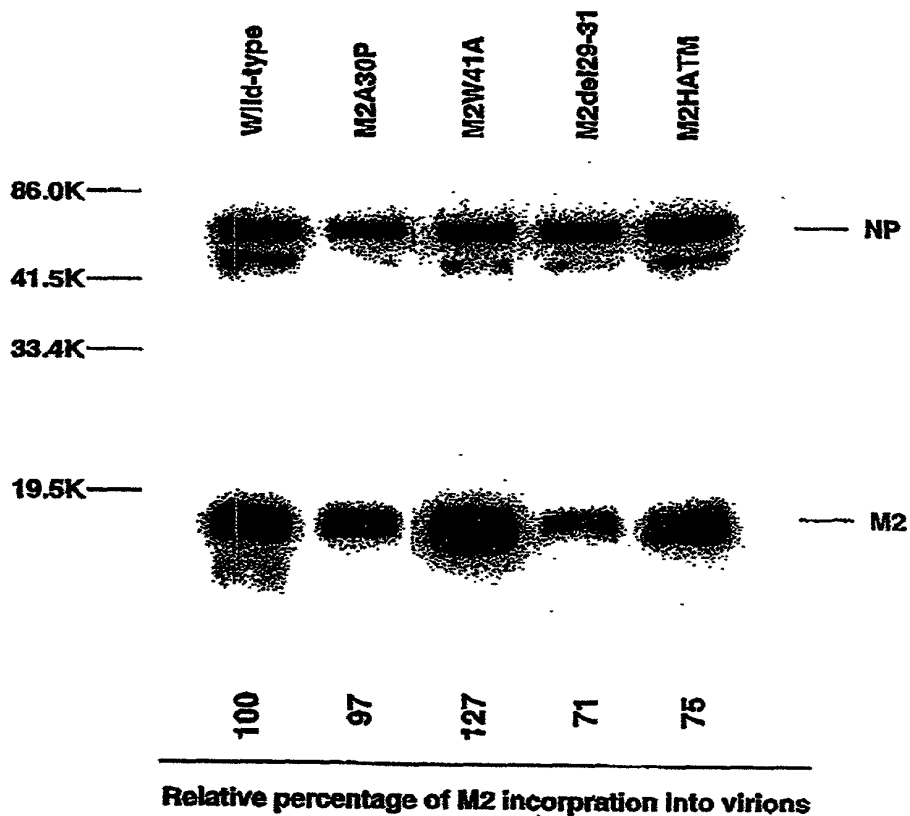


FIG. 11

12/13

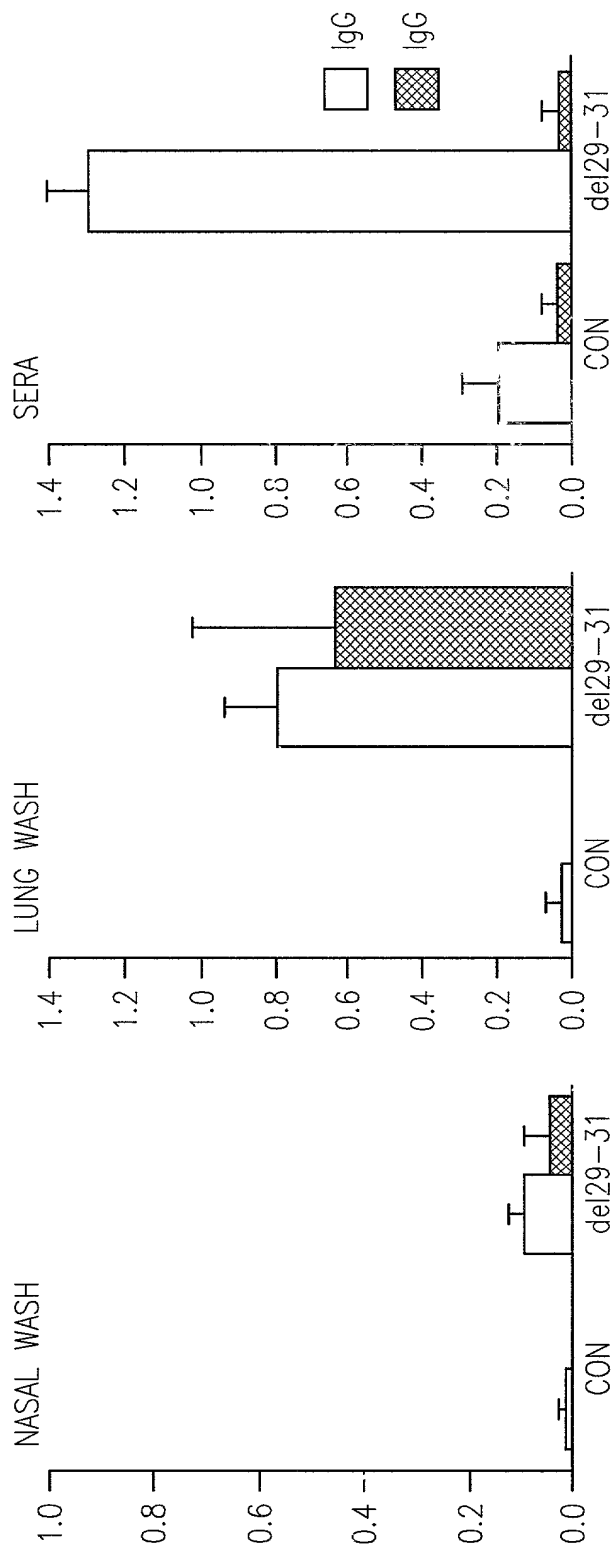


FIG. 12A

FIG. 12B

FIG. 12C

13/13

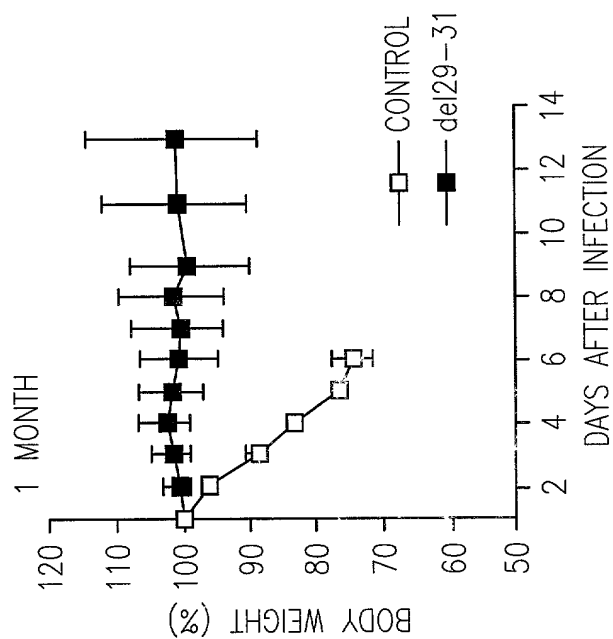


FIG. 13C

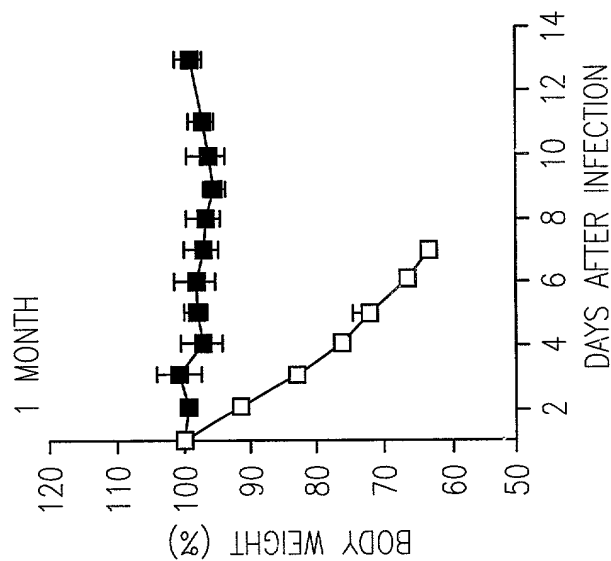


FIG. 13B

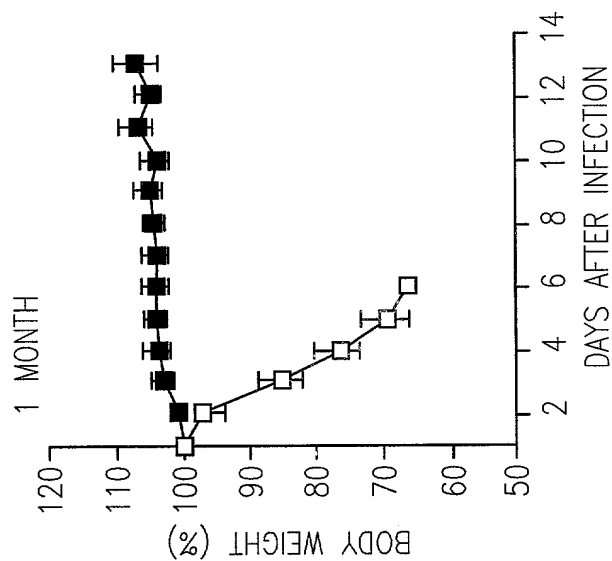


FIG. 13A